

CLAIMS

What is claimed is:

- 1 1. An augmented vision system comprising:
 - 2 a wireless hand-held communication device to receive survey-related data from
 - 3 a remote processing system via a wireless network;
 - 4 a display processor to generate image data based on the survey-related data; and
 - 5 a portable display device to receive the image data from the display processor,
 - 6 the display device having a substantially transparent display area to superimpose an
 - 7 image on a field of view of a user based on the image data.
- 1 2. An augmented vision system as recited in claim 1, wherein the communication
device is a cellular telephone.
- 1 3. An augmented vision system as recited in claim 1, wherein the communication
device is a personal digital assistant (PDA).
- 1 4. An augmented vision system as recited in claim 1, wherein the display processor is
coupled to the display device via a wireless link.
- 1 5. An augmented vision system as recited in claim 1, wherein the display processor is
coupled to the communication device via a wireless link.
- 1 6. An augmented vision system as recited in claim 1, wherein the survey data received
from the remote processing system includes real-time updates of a survey-related
dataset.
- 1 7. An augmented vision system as recited in claim 1, wherein the remote processing
system operates on a computer network coupled to the wireless network.

1 8. An augmented vision system as recited in claim 7, wherein the computer network
2 comprises the Internet and the wireless network comprises a cellular communications
3 network.

1 9. An augmented vision system as recited in claim 7, wherein the communication
2 device includes a web browser and the remote processing system includes a web server,
3 such that the survey-related data is received from the remote processing system in
4 response to a request by the user transmitted using the web browser.

1 10. An augmented vision system as recited in claim 1, wherein the survey-related data
2 is pushed by the remote processing system to the communication device without a
3 specific request for said data by the user.

1 11. An augmented vision system as recited in claim 1, wherein the image comprises an
2 image of a natural or manmade object visible within the field of view of the user.

1 12. An augmented vision system comprising:
2 a wireless hand-held communication device to receive survey-related data from
3 a remote server on a wired network, via a wireless network;
4 a display processor to generate stereoscopic image data based on the received
5 survey-related data; and
6 a display device, wearable by a user, to receive the image data from the display
7 processor, the display device having a substantially transparent display area to
8 superimpose, on a field of view of the user, stereoscopic images of natural or manmade
9 objects visible within the field of view, based on the image data.

1 13. An augmented vision system as recited in claim 12, wherein the communication
2 device is a cellular telephone.

- 1 14. An augmented vision system as recited in claim 12, wherein the communication
2 device is a personal digital assistant (PDA).
- 1 15. An augmented vision system as recited in claim 12, wherein the display processor is
2 coupled to the display device via a wireless link.
- 1 16. An augmented vision system as recited in claim 12, wherein the display processor is
2 coupled to the communication device via a wireless link.
- 1 17. An augmented vision system as recited in claim 12, wherein the survey data
2 received from the remote server includes real-time updates of a survey-related dataset.
- 1 18. An augmented vision system as recited in claim 12, wherein the wireless network
2 comprises a cellular telephony network.
- 1 19. An augmented vision system as recited in claim 12, wherein the communication
2 device includes a web browser, wherein the remote server comprises a web server, such
3 that the user requests the survey-related data from the remote server using the web
4 browser.
- 1 20. An augmented vision system as recited in claim 12, wherein the survey-related data
2 is pushed by the remote server to the communication device without a specific request
3 for said data by the user.
- 1 21. An augmented vision system as recited in claim 12, further comprising an input
2 device to receive input from the user.
- 1 22. An augmented vision system as recited in claim 21, wherein the image data is
2 generated in response the input from the user.

1 23. An augmented vision system as recited in claim 21, wherein the input device is part
2 of the communications device.

1 24. An augmented vision system as recited in claim 21, wherein the input device
2 comprises a virtual control object.

1 25. An augmented vision system comprising:
2 a wireless hand-held communication device to receive survey-related data
3 associated with a current position of a user from a remote server on the Internet, via a
4 wireless network;
5 an input device to receive input from the user;
6 a display processor to generate stereoscopic image data in response to the input
7 from the user based on the survey-related data; and
8 a display device wearable by the user, to receive the image data from the display
9 processor via a wireless link, the display device having a substantially transparent
10 display area to superimpose stereoscopic images of objects on a field of view of the user
11 based on the image data.

1 26. An augmented vision system as recited in claim 25, further comprising:
2 a positioning system to precisely determine the position of the user; and
3 a head orientation device to determine a current head orientation of the user.

1 27. An augmented vision system as recited in claim 26, wherein the display processor
2 generates the stereoscopic image data based on the survey-related data, the current
3 position of the user, and the current head orientation of the user.

1 28. An augmented vision system as recited in claim 25, wherein the communication
2 device is a cellular telephone.

- 1 29. An augmented vision system as recited in claim 25, wherein the communication
2 device is a personal digital assistant (PDA).
- 1 30. An augmented vision system as recited in claim 25, wherein the survey data
2 received from the remote server includes real-time updates of a survey-related dataset.
- 1 31. An augmented vision system as recited in claim 25, wherein the wireless network
2 comprises a cellular telephony network.
- 1 32. An augmented vision system as recited in claim 25, wherein the communication
2 device comprises a web browser and the remote server comprises a web server, such
3 that the user requests the survey-related data from the remote server using the web
4 browser.
- 1 33. An augmented vision system as recited in claim 25, wherein the survey-related data
2 is pushed by the remote server to the communication device without said data having
3 been explicitly requested by the user.
- 1 34. An augmented vision system as recited in claim 25, wherein the input device is part
2 of the communications device.
- 1 35. An augmented vision system as recited in claim 25, wherein the input device
2 comprises a virtual control object.
- 1 36. An augmented vision system as recited in claim 25, wherein the images of objects
2 comprise images of natural or manmade objects visible within the field of view of the
3 user.
- 1 37. An augmented vision system comprising:

2 a wireless hand-held communication device to receive survey-related data from
3 a remote computer system via a wireless network;
4 means for receiving the survey-related data from the communication device via a
5 wireless link;
6 means for generating stereoscopic image data based on the survey-related data;
7 and
8 means for displaying stereoscopic images to a user based on the image data,
9 including means for superimposing, on a field of view of the user, stereoscopic images
10 of natural or manmade objects visible within the field of view.

1 38. An augmented vision system as recited in claim 37, wherein the communication
2 device is a cellular telephone.

1 39. An augmented vision system as recited in claim 37, wherein the communication
2 device is a personal digital assistant (PDA).

1 40. An augmented vision system as recited in claim 37, wherein the survey data
2 includes real-time updates of a survey-related dataset.

1 41. An augmented vision system as recited in claim 37, wherein the wireless network
2 comprises a cellular telephony network.

1 42. An augmented vision system as recited in claim 37, wherein the communication
2 device includes a web browser, wherein the remote computer system comprises a web
3 server, such that the user requests the survey-related data from the remote computer
4 system using the web browser.

1 43. An augmented vision system as recited in claim 37, wherein the survey-related data
2 is pushed by the remote computer system to the communication device without an
3 explicit request for said data by the user.

1 44. An augmented vision system as recited in claim 37, further comprising means for
2 receiving input from the user, wherein the image data is generated in response the
3 input from the user.

1 45. A method of facilitating survey operations, the method comprising:
2 using a wireless hand-held communication device to receive survey-related data
3 from a remote computer system via a wireless network;
4 transmitting the received survey-related data from the communication device
5 over a wireless link to a second device;
6 generating stereoscopic image data in the second device based on the survey-
7 related data transmitted over the wireless link; and
8 displaying stereoscopic images to a user based on the image data, including
9 superimposing, on a field of view of the user, stereoscopic images of natural or
10 manmade objects visible within the field of view.

1 46. A method as recited in claim 37, further comprising, prior to said using a wireless
2 hand-held communication device, requesting the survey-related data from the remote
3 computer system using a web browser.

1 47. A method as recited in claim 37, further comprising receiving input from the user,
2 wherein said generating stereoscopic image data is in response to the input from the
3 user.